

Eastern Orthodoxy as a Resource of Ethics and Social Sustainability for the Challenges Faced by the Digital Transformation of Society

**Gheorghe NADOLEANU¹,
Ana Rodica STĂICULESCU²,
Emanuela BRAN³,
Ștefania Cristina GHIOCANU⁴**

¹ PhD student, University of Bucharest,
Faculty of Sociology and Social Work,
Bucharest, Romania,
george.nado@gmail.com

² University Professor Doctor, University of
Bucharest, Faculty of Sociology and Social
Work, Bucharest, Romania,
ana.staiculescu@unibuc.ro

³ PhD student, University of Bucharest,
Faculty of Sociology and Social Work,
Bucharest, Romania,
bran.emanuela2019@gmail.com

⁴ University Assistant, University of
Bucharest, Faculty of Sociology and Social
Work, Bucharest, Romania,
stefania.stanciu@unibuc.ro

Abstract: This study focuses on the potential of harnessing the power of the local Eastern Orthodox religious teachings in creating a socially sustainable glocalised digital transformation for Romania. First, we investigated within the scientific literature the ways religion might impact social action, and where does spirituality intersect with digitalization. Second, we devised a questionnaire with items targeting religious styles and the perception of digitalization during the pandemic and in the foreseeable future along with inquiring about which institutions should get more involved in directing digital development. The sample was constituted of 170 adult residents from Bucharest and Constanta urban areas, most of them having graduated from university, with the sample being balanced between the engineering domains and the humanities domains of study. Thirdly, we employed statistical data analysis in order to explore differences in perception of risks, benefits, and in the desired action towards the digital transformation, between the different flavours of spirituality and religiousness. The aim of the study is to obtain valuable insights for creating a bridge between spiritual preachers, digital policymakers, and the civil society, driving development towards spiritually and economically sustainable goals, for a conscious society and a healthy environment.

Keywords: *digital transformation; spirituality; religion; sustainability; policy.*

How to cite: Nadoleanu, G., Stăiculescu, A.R., Bran, E., & Ghiocanu, Ș.C. (2023). Eastern Orthodoxy as a Resource of Ethics and Social Sustainability for the Challenges Faced by the Digital Transformation of Society. *Revista Românească pentru Educație Multidimensională*, 15(1), 107-124. <https://doi.org/10.18662/rrem/15.1/688>

1. Introduction

With the start of the Covid-19 pandemic, our world has experienced transitory drastic changes with long-lasting profound effects. Therefore, public discourse has brought into central attention issues that were once only fringe suppositions and predictions about the future of society. We would like to highlight two aspects of the post-pandemic world, namely the digitalization of society and the spiritual dimension. We wish to assess the perceived impact of digital technologies according to the spiritual profile of Romanian citizens, since religion along with family and work are the basic pillars of society (David, 2015) in this romance language-speaking Eastern European country, with a majority population belonging to the Eastern Orthodox faith.

Currently, there is a need for fast implementation and sudden adoption of digital technologies that aim toward sustainable development (Jovanović et al., 2018) and that may also threaten traditional values, natural human interaction, and personal freedom. On a micro-level with a direct impact on citizens, digital technology is used as a solution for maintaining normal life activities while achieving social and physical distancing and for certifying individuals whether they are immune to Covid-19. On a macro level with a mediated impact on society, the digital sphere offers innovative solutions from a platform for instant collaboration and fast coordination between governments and other stakeholders to high-precision algorithms for assisted decision-making through big data and artificial intelligence at the top executive levels. The multifaceted challenges of the digital transformation are diverse and have a profound effect on all levels of society creating new ethical questions while providing hope for solving global issues (Nadoleanu et al., 2022).

The spiritual life of religious people suffered changes during the lockdown periods, which were sometimes perceived as discrimination against a vital aspect of their wellbeing, and the presence of the church on social media with live broadcasts of the Divine Liturgy and Sermons grew significantly. This migration into the digital sphere came with a backlash of disinformation from groups of self-portrayed religious people capitalizing on political power on the fears of others. There is an urgent demand for reconsideration of the ethical principles involved in the imposed “new normality” during the pandemic and in the post-pandemic world, where areas of digitalization and spirituality come into conflict. In the aftermath of the pandemic, society is facing disruptive digital technologies at a faster pace, both as opportunities and threats to the wellbeing of humans. The Overtone Window of accepted attitudes towards digital technology should not be

dictated by politico-economic interests, and algorithmic bubbles promoting misinformation and disinformation. There is a delicate balance between deciding which areas of life should have priority and the costs that justify such choices, with threats that are insidious or imagined, both of which needing to be taken seriously in order to promote sustainable politics and actively engage communities.

Sustainable policies should be carefully designed by respecting the local spiritual profile of citizens. Understanding the factors underlying digital technology acceptance and usage helps promote strategies for a sustainable digital transformation of the Romanian society (Căpușeanu et al., 2021). Analyzing religious dynamics present in Eastern Orthodoxy as a resource of ethical principles helps to formulate socially sustainable policies that engage social actors to create a spiritually friendly and socially sustainable digital transformation and overcome the challenges faced by citizens and the state (Tomalin et al., 2019). We aim to explore the faith variable as a causal factor for social action regarding the challenges of digitalization, viewing the religious institution as a socializing agent that works in conjunction with other institutions such as the educational system and the family in promoting informally a value consensus for interpersonal, intrapersonal and transcendental harmony an equilibrium between the social horizontal dimension and the spiritual vertical dimension. The article proceeds by reviewing scientific literature on the subjects of ethics, spirituality, and digitalization while referring to the current context of the Romanian Orthodox Church's presence in the digital sphere, the Sustainable Development Goals of the United Nations that promote digital solutions for the global crisis, and digital developments that may change the way social actors cooperate. The following sections explain the research methodology and present the results of the survey conducted on a sample of 169 people from two urban centers, continuing with a discussion for summarizing our position with respect to our findings.

2. Literature Review

The relationship between ethics and technology (Kirchschlaeger, 2020) has been discussed as being more complex than the first outlying desired ends and the latter offering means to achieve them. Technology is not value-neutral and, in its development, it opens the space for new ethical considerations, and ethics guide technology to prioritize advancements and decide permitted effects. Technology is best compatible with the ethics of Human Rights (United Nations, n.d.), a system of universal accepted basic ethical goals, which does offer technology the freedom not to perform at the

high demands of religion and it does protect the dignity of humans, although without the story as to why the rights are important. Also, technology should be protected by ethics since developments may be hindered by stakeholders that want to maintain the economic status quo. Faith-Based Organizations (FBO) have recently been targeted as a vector for transmitting and enacting the values of the Sustainable Development Goals (SDG) politics of the United Nations (Tomalin, 2020), and scholars are analyzing the dynamics between secular structure forces and the religious identity of actors, focusing on how SDG can be embedded in the sacred language and religious framework and the challenges faced by the interfaces of the FBO to communicate within a secular universalist context (Haustein & Tomalin, 2021).

The Humanity+ organization (Humanity Plus, n.d.) defines transhumanist goals by stating that their philosophy is to rely on enhancing the lives of humans through science and technology, which is opposed to religion which emphasizes a life beyond that which we immediately perceive and a connection to a higher divine being. This organization also underlines the fact that transhumanism is often portrayed in a negative light as being too optimistic about the effects and uses of technology and they also emphasize that even religious people use available technologies to enhance their lives, which blurs the difference between who is a transhuman. Regarding the spiritual dimension of digital humans, the transhumanist philosophy and the human enhancement goals bare the characteristics of religion through their topics of a happy soul, an ageless body, and mind-body harmony and with the converging of nanotechnologies, biotechnologies, information technologies, and the cognitive sciences, new questions regarding the human existential traits will arise in the journey to redefine embodiment, authenticity, and interiority (Galvagni, 2020). During the pandemic, we have encountered virtualization of the public, a feature of digitally overcoming the spatial limits of natural and traditional human existence, and we may state that the transhumanist nature of our enhanced lives alienates us from transcending humanity towards the divine, by changing the path of our spiritual endeavor from experiencing the mystery of existence towards eliminating feelings of awe through science, contouring a technological eschatology of the anthropological singularity (Sandu, 2020).

Climate change is a top priority for international organizations such as the United Nations and the World Economic Forum that promote digitalization as a solution to mitigate this multidimensional crisis (Mondejar et al., 2021), with the digital transformation based on the Fourth Industrial Revolution sustaining action coordination in smart cities (Balogun et al.,

2020) and the circular economy model of recycling and waste management (Maiurova et al., 2022). The climate crisis also holds a theological dimension, being interpreted as either a prefigured problem which requires a return to tradition, or a *sui generis* problem which urges new ethical formulations (Clingerman & O'Brien, 2017), both of which could imply different digital approaches for mitigating the unbalance. Blockchain experiments approached global issues such as environmental management and coordination of belief systems, the former being represented by the terra0 project that enables economical self-management of natural assets in an environmentally friendly manner that may also sustain the universal basic income goal and the latter being tackled through the 0xΩ religion project which offers the tools to collectively curate registries of beliefs and sacred artifacts through tokenization within a decentralized autonomous organization (Lotti, 2019). Scholars highlight the importance of coordinated action through the profound educational power of religious teachings that may be harnessed to contour a theology for ecology that would counter the deeply rooted present sin of consumerism spread through the globalization of capitalism.

The digitalized world opens opportunities for spiritual development while also being a hostile environment for attaining such experiences (Walach, 2020). Communities can unite online, and disseminate religious materials, but the internet does offer opportunities only for the wise who know what they are looking for. Without the spirit of discernment, someone may find themselves falling into the algorithmic traps that only understand the value of clicks, in an environment flooded with information that activates the path of the divided rational mind instead of the elevated path of holistic perception of reality. Furthermore, watching videos of spiritual practice is never equivalent to participating mind and body in these rituals that make the spiritual experiences more likely, and which ultimately aim at rooting these experiences in everyday life and as an extension of it (Lee et al., 2018). The Romanian Orthodox Church highly cherishes the spiritual heritage of the Christian church tradition and has been conservative in protecting the teachings and rituals for ages. It officially makes use of digital technologies for disseminating faith-related content (Vidican-Manci, 2020), by owning a national press agency “Basilica”, an online newspaper outlet “Lumina”, and a national television “Trinitas”, being present in printing format, on the radio and television. The Romanian Orthodox Church is also present on social media broadcasting live on Facebook the Divine Liturgy and other prayers served at the Patriarchal Cathedral, along with using

Instagram to reach its followers through aesthetic faith-related infographics and engaging interactive polls and quizzes.

Analyzing the Digital Economy and Society Index (DESI) report of 2021, Romania scored the least of all EU member states in human capital, connectivity, integration of digital technology, and digital public services altogether (Stoica & Bogoslov, 2017). Since the start of the DESI report ranking in the year 2015 (which previously contained one more variable – use of internet services), the three main eastern orthodox countries of the EU, Romania, Bulgaria, and Greece occupied year by year the last three places of all EU countries (Laitsou et al., 2020; Shishmanov, 2022). By further comparing these results with those of the Special Eurobarometer 516 of 2021 which assessed European citizens' knowledge and attitudes towards science and technology, any straightforward deductions are inconclusive. The results of Romania, Bulgaria, and Greece don't correlate as a monolithic cultural zone with respect to the issues of science and technology, this being true also for Cyprus. Furthermore, other western countries are surpassing the eastern orthodox countries' skepticism towards the effects of technology. This is even more clear in ranking responses that tackle the attitude towards ethical questions regarding the limits of what science should study or whether technology may threaten human rights. Nevertheless, based on Max Weber's thesis, Eastern Orthodoxy has been often portrayed as a drawback force to social progress (Makrides, 2019).

A scheme of faith development based on several psychologists' conceptual frameworks (Fowler, 2001) including Piaget's development theory helped explain the stages of religious thinking starting from the child's magical world vision, the following conventional phase where we find many of the religious people, with consequent phases of personal introspection and opening to a universal spirituality. The faith stages are assessed with the help of an interview targeting the development of spiritual and cognitive dimensions such as logical framework, social perspective, moral judgment, social awareness, locus of authority, world coherence, and the symbolic function (Fowler et al., 2004). Due to the structuring and the deconstructing power of the cultural environment, the theory was refined into focusing on types rather than stages with religious styles emerging as a more complex model to assess faith (Streib & Keller, 2018) which devised instruments to measure perceived truth of text and teachings, appreciation of fairness, tolerance and rational choice, and xenosophia and inter-religious dialog (Streib et al., 2010). The theories have been validated through extensive cross-cultural studies that tackle the spectrum of religion and

spirituality (Streib & Hood, 2016) and constitute a reference point for the current research paper.

3. Research Methodology

We approached our research study from an exploratory perspective, the core of our analysis involving computer programs for producing visualizations. We collected our data with the help of a digital questionnaire having four parts, targeting sociodemographic variables, the respondents' view on matters of digitalization, their relationship to spirituality and religion, and the last section inquiring about the way they perceive the link between spirituality and technology. We applied this questionnaire in a digital form to people being approached face-to-face in public spaces such as campuses, markets, the city center, and at cultural events. The current section will describe the steps of our research approach.

In the first section, we enquired the age, sex, study domain, and religious affiliation. We had 169 respondents in total from Constanta and Bucharest urban areas, aged between 18 and 69 and there were 41,4% males and 58,6% females. Regarding their education, 85% currently attending or have graduated from university studies, and the sample is balanced between technical study domains and humanistic study domains. The religious affiliation was as follows: 82,8% (140) belonging to Orthodox Christianity, 8,3% (14) to the Roman Catholic Church, 5,3% (9) to the Islamic Cult, and 1,8% (3) to no religion, 1,2% (2) to other Christian denominations and 0,6% (1) to Gnosticism.

The second section and third sections asked the respondents to rate their interest (answering with Yes/No), knowledge (answering on a 5-point Likert Scale), and involvement (answering with Yes/No) in the digitalization sphere and in the spiritual domain. The second section had an additional question regarding which is the apogee of the human civilization, having as answer choices the historical eras from prehistory to the foreseeable future, and an open answer field. The third section also had 22 items to rate as true or false which targeted personal beliefs.

The fourth section tackled the perceived relationship between digitalization and spirituality by asking an array of questions. The first subsection inquired whether digitalization is in conformity with the respondent's personal values and those promoted by different religious institutions, with answer choices of "in conformity", "somewhat in conformity", and "not in conformity". The next subsection asked the respondents to rate some digital solutions from the pandemic period as "good", "bad", and "compromise" solutions. The following subsection

asked respondents to evaluate the impact on society of certain digital technologies that are currently in development or promoted for wide adoption, and they indicated their degree of support by choosing from “totally beneficial”, “more beneficial than harmful”, “more harmful than beneficial”, and “totally harmful”. Another subsection inquired if the respondents agree or not with statements that portray digitalization in general as harmful or beneficial for certain aspects of human welfare, and they responded with “strongly agreed”, “somewhat agreed”, and “disagreed”. The final subsection inquired about which institutions should analyze and plan digitalization, and the respondents rated each institutional involvement with the answers “as high as possible”, “medium”, and “as low as possible”.

We used Google Forms and Microsoft Excel for simple data analysis and for more complex operations we utilized the R programming language. The first step of data processing involved an exploratory factor analysis using the “factanal” function (Shah et al., 2019) applied on the 22 items regarding the personal beliefs of the respondents. Optimal numbers of factors resided under 7, and we proceeded with 6 factors due to contextual interpretation. After extracting the factors, we created visualizations using the “pheatmap” function (Kolde, 2012) that highlighted the way that the extracted factors correlate and clustered together with items from section four of the questionnaire (Barter & Yu, 2018).

The program outputted that selecting 6 factors to be sufficient in order to explain the 22 items targeting personal beliefs passes the test with a p-value of 0.0488 and the chi-square statistic is 140.12 on 114 degrees of freedom. We named the extracted factors “Traditionalism” (Tradition), “Religio-centrism” (ReligioCe), “Harmony” (Armonie), “Futurism” (Futurism), “Scientism” (Scientism), and “Humanism” (Q1_AGN). A high score on the *traditionalism* factor indicates that the person highly cherishes spirituality and is cautious regarding the effects of technology. *Religio-centrism* is about believing that your religion is the only true religion while others are potentially dangerous. The *harmony* factor includes complementarity between religion and science as well as the universality of truth in religions around the globe. *Futurism* relates to the idea that technology will bring the new world after the apocalypse and that the Scriptures hold deep meanings that are hard to decipher. *Scientism* regards religion as holding back humanity from the much-needed technological progress and values the triumph of science over religion. Finally, *humanism* regards that spiritual evolution is not dependent on religious practices. We will analyze how these factors seem to influence the responses from section four of the questionnaire.

4. Results and Interpretation

As an overview of the respondents' opinions, we will proceed to describe sections two and three of the questionnaire (digitalization and spirituality individually assessed), while section four (the link between spirituality and digitalization) will provide data for factorial and cluster analysis.

Regarding the interest of the respondents, 90,5% (153) are digitalization enthusiasts, compared to 68,6% (116) who are interested in spirituality. With respect to the importance of the two aspects, 81,7% (138) answered that digitalization is an important aspect of their life while 62,1% (105) answered that spirituality is important for them personally. Regarding the self-assessed knowledge of digitalization, 37,9% (64) think they have strong knowledge of the subject, followed by 52,7% (89) with a normal degree of knowledge and 8,3% (14) with a low knowledge degree. Regarding the self-assessed knowledge of spirituality, the percentages are 35,5% (60) for strong knowledge, 50,9% (86) for normal knowledge, and 11,2% (19) for low knowledge degree.

Table 1. The apogee of humanity

Time period	responses
Prehistory	1,8% (3)
Antiquity	6,5% (11)
Medieval period	3% (5)
The Renaissance	19,5% (33)
The Industrial era	4,7% (8)
The Modern era	13% (22)
The Informational era	26% (44)
The future (metaverse)	8,9% (15)
Other answers*	2,4% (4)
Don't know	14,2% (24)

* "always in progress"; "every period has its apogee"

Source: Author's own conception

From Table 1 we may see that respondents chose the current informational era plus the near past, the modern era, and the industrial era, in a proportion of 43,7% (74), while the future, the strongly digitalized metaverse type, was voted in a proportion of 8,9% (15). In contrast, the far past is well represented, with votes for the prehistorical period, antiquity, the medieval period, and renaissance cumulating to 30,8% (52). This divides the

respondents into those thinking that technology brings progress and those that feel that technologization may have contributed to an important loss for humanity.

Regarding the spiritual sphere, 72,8% (123) believe that God exists, 19,5% (33) are agnostic, with 3,6% (6) being atheists. Religion is practiced according to norms by 39,6% (67), with a proportion of 28,4% (48) practicing each time they get the chance, and 30,8% (52) only when attending a social event. With respect to the 22 items that target personal beliefs, the majority of questions received a “True” or “False” answer in the proportion of 70-88%. Exceptions were questions that asked if there is any link between the Apocalypse and digitalization (Q20 – digital utopia, Q21 – digital dystopia and Q22 – not linked to digitalization, answered by 44-46%), and an item regarding humanity being saved by technological progress (Q16 – 66%). Table 2 and Table 3 contain the top questions with respect to the number of “True” responses and “False” responses respectively. The results indicate that spirituality is highly valued as a resource for social welfare, science is not viewed to be in opposition to religion, and the Orthodox majority is open to other cultural systems.

Table 2. Top questions for the number of “True” responses

Item	responses
Q1-You may become spiritually enlightened even outside of a spiritual practice	60,9% (103)
Q13-Religion and science are complementary	58,0% (98)
Q2-For a better society people should have more faith	56,2% (95)
Q14-Humanity will be saved by spiritual progress	50,9% (86)
Q8-All religions contain ideas reflecting the absolute truth	49,1% (83)

Source: Author's own conception

Table 3. Top questions for the number of “False” responses

Item	responses
Q15-Humanity is kept from progress by religion	66,3% (112)
Q7-My religion is the only true religion in the world	65,1% (110)
Q19-Society currently needs more technological progress and less religion	60,9% (103)
Q9-Other monotheistic religions are spiritually dangerous	58,0% (98)
Q12-We only gain knowledge through science and science contradicts religion	58,0% (98)

Source: Author's own conception

Questions that had divided opinions are “True” and “False” responses are Q3 – More scientific thinking creates a better society, Q4 – Holy Scriptures contain the literal truth, Q5 – In time science confirms the Holy Scriptures, Q6 – Holy scriptures contain deep meaning unable to be understood with the rational mind, Q10 – My religions is balanced between preserving tradition and accepting technological innovation, Q11 – Religion shall have priority since it helps us accede higher forms of knowledge than through science, Q16 – Humanity will be saved by technological progress, Q17 – Humanity is threatened by technologies that change the way of life., Q18 – Our society needs more spirituality than technological progress.

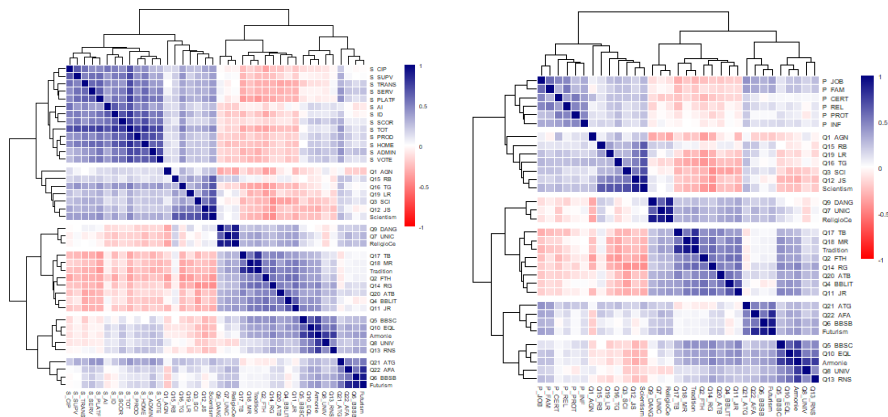


Figure 1. (a) The heatmap of the perceived effects of a series of digital technologies along with the 22 items of personal beliefs and the 6 extracted factors
(b) The heatmap of the acceptance of a series of digital solutions during the pandemic along with the 22 items of personal belief and the 6 extracted factors

Source: Author's own conception

The solutions discussed in Figure 1. (a) and (b) are:

- Subdermal microchip implant (S_CIP)
- Mass surveillance (S_SUPV)
- Neural implant for cognitive augmentation (S_TRANS)
- Personalized services through mass data collection (S_SERV)
- Total dependency of society on digital platforms (S_PLATF)
- Governance through Artificial Intelligence (S_AI)
- Unique digital identity (S_ID)
- Social credit system (S_SCOR)

- Automated production chain (S_PROD)
- Intelligent home environment (S_HOME)
- Digital public administration (S_ADMIN)
- Electronic vote system (S_VOTE)
- Remote work through videoconferences (P_JOB)
- Keeping in touch with friends and family (P_FAM)
- Digital certificate for proving immunity (P_CERT)
- Attending online religious worship (P_REL)
- Organizing anti-covid measures protests (P_PROT)
- Accessing unofficial information sources (P_INF)

Respondents were asked to rate the perceived effects of the above digital technology solutions on a four-point scale from beneficial to harmful and the results are present in Figure 1 a. The respondents who score high on *scientism* readily accept all digital solutions while for *futurism* they slightly reject “S_AI”. *Traditionalism* indicated rejection of most of the solutions while being undecided on “S_AI”. *Harmony* and *religio-centrism* have opposing patterns with respect to each other. While *harmony* slightly indicates acceptance *religio-centrism* slightly indicates rejection of “S_AI”, “S_ID”, “S_SCOR”, “S_PROD”, “S_HOME”, “S_ADMIN”, “S_VOTE”. We observe that Artificial Intelligence as a solution to substitute human decisions is controversial and its acceptance depends on the personal beliefs of the respondents. We also observe that technologies cluster into two main groups that receive different approval from the extracted factors, namely the group of technologies that would be related to transhumanism, which are invasive to the human body and may exert massive social control, and other technologies which are seen as possibly beneficial enhancements to human life.

Regarding the digital transformation present during the pandemic, the *scientism* factor again accepted all solutions including online religious worship probably as a measure of countering the spread of the disease. As general acceptance, *futurism* followed close, with *harmony* immediately after. *Religio-centrism* slightly rejected the digital solutions with *traditionalism* being in opposition to most of the solutions, especially “P_JOB” and “P_FAM” which were the top appreciated solutions among the technology enthusiastic factors. We believe that work and family, being the pillars of Romanian society, were perceived as the most distressing aspects of the imposed new normality, even more distressing than online attendance of religious worship which was also perceived negatively by the traditional side of the spectrum.

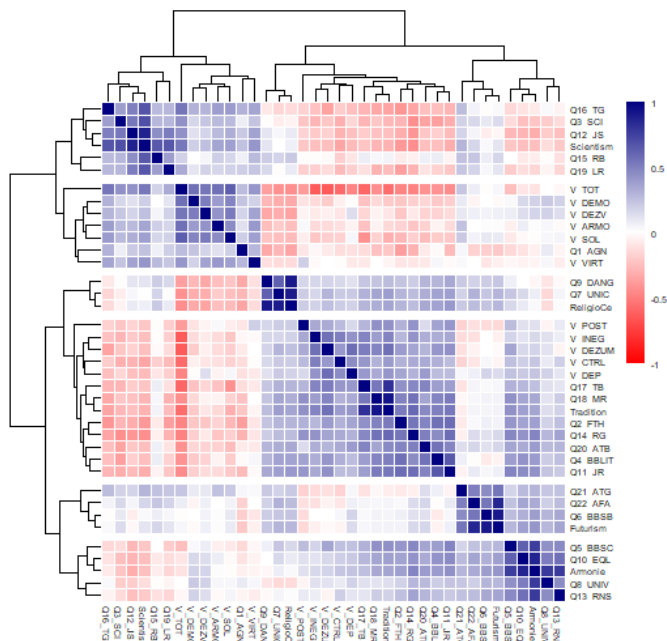


Figure 2. The heatmap of the personal vision on the future of digitalization along with the 22 items of personal beliefs and the 6 extracted factors
Source: Author's own conception

The visions discussed in Figure 2. are:

- Will promote democracy (V_DEMO)
- Will support social development (V_DEZV)
- Will increase our connection to humanity (V_ARMO)
- Will offer solutions for global issues (V_SOL)
- Will aid spirituality by transcending corporeality (V_VIRT)
- Will hinder spirituality by a weak mind-body connection (V_POST)
- Will increase social inequality (V_INEG)
- Will dehumanize our lifestyle (V_DEZUM)
- Will increase social control (V_CTRL)
- Will increase technology dependency (V_DEP)

Regarding the data visualized in Figure 2, we may observe that the *scientism* factor positively correlates with the good predictions and negatively correlates with the bad predictions on the future digitalization, and the

humanism factor behaves as a milder version of *scientism*. Compared to *futurism*, the *harmony* factor positively correlates with democracy and development through digitalization, while also positively correlating with the possible harmful outcomes of digitalization. While *religio-centrism* strongly correlates negatively with the beneficial outcomes, *traditionalism* strongly correlates positively with the harmful outcomes. We may thus observe that some personal beliefs influence the disbelief in digitalization as a future solution, others influence the fear with respect to the harmful outcomes, and of course, others find digital technology to be a sustainable resource for the future of humanity.

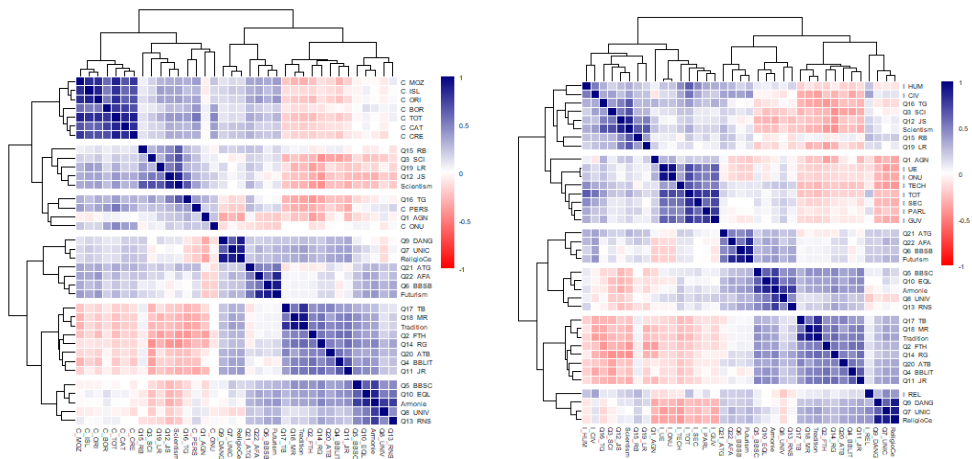


Figure 3. (a) The heatmap of digitalization ethical conformity with personal values and those of religious institutions along with the 22 items of personal beliefs and the 6 extracted factors **(b)** The heatmap of the institutions that should get involved in analyzing the effects and planning digitalization along with the 22 items and the 6 extracted factors

Source: Author's own conception

The institutions discussed in Figure 3. (a) and (b) are:

- Mosaic Cult values (C_MOZ)
- Islamic Cult values (C_ISL)
- Oriental Spiritual values (C_ORI)
- Christian Orthodox values (C_BOR)
- Catholic values (C_CAT)
- Other Cristian denominations' values (C_CRE)
- Personal values (C_PERS)

- United Nations values (C_UNU)
- Experts in Humanities (I_HUM)
- Civil Society (I_CIV)
- European Union (I_UE)
- United Nations (I_UNU)
- Experts in Technology (I_TECH)
- National State Security (I_SEC)
- National Parliament (I_PARL)
- National Government (I_GUV)
- Religious Institutions (I_REL)

Regarding conformity with the values of certain actors, the results from Figure 3 (a) are the following. *Scientism*, *humanism*, *futurism*, and *harmony* have personal values in conformity with the politics of digitalization, while *religio-centrism* and *traditionalism* have values in opposition to the politics of digitalization. *Scientism* and *humanism* perceive that the values of UN are in concordance with the promotion of digitalization, while *futurism* perceives that the values of UN do not resemble those of current politics. Regarding the perception of the compatibility between the values of religious institutions and those of the digital transformation, for *scientism*, *futurism*, and *religio-centrism*, we observe compatibility, while for *traditionalism* we observe a discrepancy between the two ethical frameworks. From Figure 3 (b) we observe that there are three clusters of institutions, civil society together with experts in humanities, international and national institutions together with experts in technology, and religious institutions. *Religio-centrism* strongly supports the involvement of the religious institutions while rejecting the group of international and national institutions together with *traditionalism*. There is also opposition from *traditionalism* for the involvement of the civil society, with support coming from *scientism* and *futurism*.

5. Conclusions

This article tackled the relationship between the spiritual dimension and attitudes toward digitalization with the aim of understanding how religious institutions may aid in the promotion of global sustainable development in conformity with the local spiritual tradition. Our findings confirm ideas found in the scientific literature such as digitalization being mostly compatible with the ethical framework of the United Nations. Artificial intelligence, a controversial technology from a theological perspective, and present as a threat to inequality in the insights of the World Economic Forum experts, is also perceived as such by the respondents,

together with other technologies that are invasive or alienating for humanity. The civil society, the Orthodox Church of Romania together with other national and international institutions are perceived differently as actors for social change related to the digital transformation. The extracted factors seem to have an influence on the vision regarding the future of digitalization and the path to spiritually, socially, and environmentally sustainable development. Future work will be directed toward overcoming the limitations of the current exploratory questionnaire-based study, by involving in-depth interviews that assess a wider spectrum of faith-related topics and engagement styles with the digital transformation and sustainable development goals.

References

- Balogun, A. L., Marks, D., Sharma, R., Shekhar, H., Balmes, C., Maheng, D., Arshad, A., & Salehi, P. (2020). Assessing the potentials of digitalization as a tool for climate change adaptation and sustainable development in urban centres. *Sustainable Cities and Society*, 53, 101888. <https://doi.org/10.1016/j.scs.2019.101888>
- Barter, R. L., & Yu, B. (2018). Superheat: An R package for creating beautiful and extendable heatmaps for visualizing complex data. *Journal of Computational and Graphical Statistics*, 27(4), 910-922. <https://doi.org/10.1080/10618600.2018.1473780>
- Căpușeanu, S., Mateș, D., Tırkeş, M. C., Barbu, C. M., Staraș, A. I., Topor, D. I., Stoenică, L., & Fülöp, M. T. (2021). The impact of force factors on the benefits of digital transformation in Romania. *Applied Sciences*, 11(5), 2365. <https://doi.org/10.3390/app11052365>
- Clingerman, F., & O'Brien, K. J. (2017). Is climate change a new kind of problem? The role of theology and imagination in climate ethics. *Wiley Interdisciplinary Reviews: Climate Change*, 8(5), e480. <https://doi.org/10.1002/wcc.480>
- David, D. (2015). *Psihologia poporului român: profilul psihologic al românilor într-o monografie cognitiv-experimentală*. Elefant Online.
- Fowler, J. W. (2001). Faith development theory and the postmodern challenges. *The International Journal for the Psychology of Religion*, 11(3), 159-172. https://doi.org/10.1207/S15327582IJP R1103_03
- Fowler, J. W., Streib, H., & Keller, B. (2004). *Manual for faith development research*. Research Center for Biographical Studies in Contemporary Religion, Universität Bielefeld; Center for Research in Faith and Moral Development, Emory University, Atlanta.
- Galvagni, L. (2020). A digital spirituality for digital humans?. In H. Walach (Eds.), *Religion in the Age of Digitalization* (pp. 144-154). Routledge.

- Haustein, J., & Tomalin, E. (2021). Religion, populism, and the politics of the Sustainable Development Goals. *Social Policy and Society*, 20(2), 296-309. <https://doi.org/10.1017/S147474642000072X>
- Humanity Plus. (n.d.). *Transhumanist FAQ*. Humanity Plus. <https://www.un.org/en/about-us/universal-declaration-of-human-rights>
- Jovanović, M., Dlačić, J., & Okanović, M. (2018). Digitalization and society's sustainable development—Measures and implications. *Zbornik radova Ekonomskog fakulteta u Rijeci: časopis za ekonomsku teoriju i praksu*, 36(2), 905-928. <https://doi.org/10.18045/zbefri.2018.2.905>
- Kirchschlaeger, P. G. (2020). The correlation between ethics and technology. In H. Walach (Eds.), *Religion in the Age of Digitalization* (pp. 165-180). Routledge.
- Kolde, R. (2012). Pheatmap: pretty heatmaps. R package version 1.0.12. Cran. <https://cran.rproject.org/web/packages/pheatmap/index.html>
- Laitsou, E., Kargas, A., & Varoutas, D. (2020). Digital competitiveness in the European Union era: The Greek case. *Economies*, 8(4), 85. <https://doi.org/10.3390/economies8040085>
- Lee, M. Y., Chan, C. C., Chan, C. L., Leung, P. P., & Ng, S. M. (2018). *Integrative body-mind-spirit social work: An empirically based approach to assessment and treatment*. Oxford University Press.
- Lotti, L. (2019). The Art of tokenization: Blockchain affordances and the invention of future milieus. *Media Theory*, 3(1), 287-320. <http://journalcontent.mediatheoryjournal.org/index.php/mt/article/view/90/80>
- Maiurova, A., Kurniawan, T. A., Kustikova, M., Bykovskaia, E., Othman, M. H. D., Singh, D., & Goh, H. H. (2022). Promoting digital transformation in waste collection service and waste recycling in Moscow (Russia): Applying a circular economy paradigm to mitigate climate change impacts on the environment. *Journal of Cleaner Production*, 354, 131604. <https://doi.org/10.1016/j.jclep.ro.2022.131604>
- Makrides, V. N. (2019). Orthodox Christianity and economic development: A critical overview. *Archives de sciences sociales des religions*, 185, 23-43. <https://doi.org/10.4000/assr.39018>
- Mondejar, M. E., Avtar, R., Diaz, H. L. B., Dubey, R. K., Esteban, J., Gómez-Morales, A., Hallam, B., Mbungu, N. T., Okolo, C. C., Prasad, K. A., She, Q., & Garcia-Segura, S. (2021). Digitalization to achieve sustainable development goals: Steps towards a Smart Green Planet. *Science of the Total Environment*, 794, 148539. <https://doi.org/10.1016/j.scitotenv.2021.148539>
- Nadoleanu, G., Staiculescu, A. R., & Bran, E. (2022). The Multifaceted Challenges of the Digital Transformation: Creating a Sustainable Society. *Postmodern Openings*, 13(1 Sup1), 300-316. <https://doi.org/10.18662/po/13.1Sup1/428>

- Sandu, A. (2020, August 20). Umanism, transumanism, postumanism [Video]. YouTube. <https://www.youtube.com/watch?v=QtBHl04lH70>
- Shah, I. A., Khan, I., Mir, S. A., Pukhta, M. S., & Lone, M. S. W. A. A. (2019). Exploratory Factor Analysis (EFA) Utilizing R Software Analytics. *Advances in BioResearch* 10(1), 10. <https://doi.org/10.15515/abr.0976-4585.10.1.15>
- Shishmanov, K. (2022). Digital Transformation in Romania and Bulgaria. In I. Panagoreț & G. Gorghiu (vol. ed.), *Lumen Proceedings: Vol. 18. Globalization, Innovation and Development, Trends and Prospects (GIDTP2019)* (pp. 198-205). LUMEN Publishing House. <https://doi.org/10.18662/lumproc/gidtp2022/20>
- Stoica, E. A., & Bogoslov, I. A. (2017, December). A comprehensive analysis regarding DESI country progress for Romania relative to the European average trend. *Balkan Region Conference on Engineering and Business Education*, 2(1), 258-266. <https://doi.org/10.1515/cplbu-2017-0034>
- Streib, H., & Hood, R. W. (2016). *Semantics and psychology of spirituality. A Cross-cultural Analysis*. Cham & Heidelberg. <https://doi.org/10.1007/978-3-319-21245-6>
- Streib, H., Hood Jr, R. W., & Klein, C. (2010). The Religious Schema Scale: Construction and initial validation of a quantitative measure for religious styles. *The International Journal for the Psychology of Religion*, 20(3), 151-172. <https://doi.org/10.1080/10508619.2010.481223>
- Streib, H., & Keller, B. (2018). *Manual for the assessment of religious styles in faith development interviews (of the Manual for Faith Development Research)*. Bielefeld University. <https://doi.org/10.4119/unibi/2920987>
- Tomalin, E. (2020). Global aid and faith actors: the case for an actor-orientated approach to the 'turn to religion'. *International Affairs*, 96(2), 323-342. <https://doi.org/10.1093/ia/iaa006>
- Tomalin, E., Haustein, J., & Kidy, S. (2019). Religion and the sustainable development goals. *The Review of Faith & International Affairs*, 17(2), 102-118. <https://doi.org/10.1080/15570274.2019.1608664>
- United Nations. (n.d.). *Universal Declaration of Human Rights*. United Nations. <https://www.un.org/en/about-us/universal-declaration-of-human-rights>
- Vidican-Manci, L. (2020). *Propovăduirea Evangheliei în Era Digitală: Impactul catehezei și al predicii asupra „generației digitale” prin utilizarea noilor tehnologii ale informației și comunicării*. Presa Universitară Clujeană.
- Walach, H. (2020). Thoughts on spirituality in a time of information flooding. In H. Walach (Eds.), *Religion in the Age of Digitalization: From New Media to Spiritual Machines*. Routledge.